

WHAT IS CLAIMED IS:

1. A method of operating client equipment in operative communication with a content-based network, said equipment comprising at least a first application, the method comprising:

5 generating first data relating to the operation of said equipment;
receiving, at said first application, said first data;
evaluating said first data; and
selectively storing at least a portion of said first data within a storage device.

2. The method of Claim 1, wherein said equipment further comprises a second
10 application, said second application initiating said act of generating due to at least one event associated with said second application.

3. The method of Claim 2, wherein said at least event associated with said second application comprises generating an error selected from the group consisting of: (i) catastrophic errors; and (ii) recoverable errors.

15 4. The method of Claim 2, wherein said at least one event is taken from the group consisting of: (i) informational message types; (ii) recoverable error types; (iii) catastrophic error types; (iv) reboot events; and (v) resource depletion events.

5. The method of Claim 2, wherein said first application comprises an OCAP-compliant monitor application, and at least said acts of receiving and evaluating are performed
20 using software entities associated with said monitor application.

6. The method of Claim 2, wherein said act of evaluating said first data comprises: determining the priority of said at least one event; and
selectively initiating at least one action based on said determined priority.

7. The method of Claim 6, wherein said act of selectively initiating at least one
25 action comprises generating a message for transmission to another entity.

8. The method of Claim 1, wherein said network comprises a multi-channel distribution network of the hybrid fiber coax (HFC) type.

9. A method of operating CPE within a content-based network, said CPE comprising a resource, a first entity adapted to communicate with another network entity, and a plurality of
30 software applications, the method comprising:
evaluating said resource using said first entity; and

in response to said act of evaluating, selectively controlling the operation of one or more of said plurality of applications.

10. The method of Claim 9, wherein said act of evaluating comprises comparing a parameter associated with said resource to a predetermined value, and said act of selectively
5 controlling comprises utilizing at least a result of said act of comparing to initiate destruction of said one or more applications.

11. The method of Claim 10, wherein said act of comparing to a predetermined value comprises accessing a stored profile of said CPE, said profile comprising said predetermined value.

10 12. The method of Claim 9, wherein said act of evaluating comprises evaluating the requirements of said resource by said one or more applications, and said act of selectively controlling comprises utilizing at least a result of said act of evaluating to initiate destruction of said one or more applications.

13. The method of Claim 9, wherein said entity comprises a trusted OCAP-compliant
15 Java-based application, and said act of evaluating comprises evaluating said resource under at least partial control of said network entity.

14. CPE adapted for operation within a content-based network, said CPE comprising at least one resource, a first entity adapted to control at least one function within said CPE, and a plurality of software applications, said CPE operating according to the method comprising;

20 evaluating said at least one resource using said first entity; and
in response to said act of evaluating, selectively controlling the operation of one or more of said plurality of applications.

15. The CPE of Claim 14, wherein said first entity comprises a trusted monitor application adapted for use in a cable network.

25 16. The CPE of Claim 15, wherein said monitor application is further adapted to interface with a network entity.

17. The CPE of Claim 16, wherein said network entity comprises a software component disposed external to said CPE.

30 18. The CPE of Claim 14, wherein at least a portion of said plurality of applications are downloaded to said CPE from time to time via an external network interface.

19. The CPE of Claim 15, wherein said monitor application is adapted to be at least partly controlled by an external entity.

20. The CPE of Claim 19, wherein said external entity comprises a head-end supervisory process or its proxy.

21. The CPE of Claim 14, wherein said act of evaluating is performed substantially in response to an event notification provided to said first entity.

5 22. The CPE of Claim 21, wherein said event notification is generated by a software object adapted to handle a plurality of different event types.

23. Consumer premises apparatus adapted for operation within a cable network, said apparatus comprising:

a processor;

10 a storage device operatively coupled to said processor;

a monitor application running on said processor and adapted to control at least one function within said apparatus; and

at least one software application adapted to run on said processor;

wherein said monitor application is configured to:

15 (a) identify an event occurring within said apparatus; and

(b) selectively control the operation of said at least one software application in response thereto.

24. The apparatus of Claim 23, further comprising a network interface operatively coupled to said processor;

20 wherein said monitor application is further adapted to communicate with an external entity via said interface.

25. The apparatus of Claim 24, wherein said monitor application is further adapted to receive control input from said external entity.

26. The apparatus of Claim 24, wherein said monitor application is further adapted to 25 generate event messages and transmit them to said external entity.

27. The apparatus of Claim 24, wherein said monitor application is further adapted to store a plurality of data relating to said event within said storage device, said data being accessible to said external entity.

28. Fault-tolerant CPE adapted for coupling to a cable network, said CPE having a 30 monitor application running thereon, said monitor application being adapted to (i) detect at least one event relating to the operation of one or more software applications running thereon; (ii)

selectively log data relating to said event for subsequent use; and (iii) control the operation of said CPE based at least in part on said at least one detected event.

29. The CPE of Claim 28, wherein said monitor application is further adapted to communicate with an external entity, said external entity and said monitor application cooperating to selectively control the operation of said CPE.

30. The CPE of Claim 29, wherein said event comprises a resource depletion event, and said act of controlling the operation of said CPE comprises selectively suspending or destroying at least one of said software applications in order to mitigate said resource depletion.

31. A method of operating a cable network having a plurality of client devices operatively coupled thereto, the method comprising:
distributing at least one software application to each of said plurality of devices;
providing at least one monitor entity on each of said devices;
monitoring the operation of said at least one software application with respective ones of said monitor applications;
detecting events associated with said operation of said software applications; and
responsive to said detecting, logging a plurality of data relating to said events within said devices for subsequent use.

32. A method of operating a multi-channel cable network having a plurality of client devices operatively coupled thereto, the method comprising:
distributing at least one software application to each of said plurality of devices;
providing at least one monitor entity on each of said devices;
monitoring the operation of said at least one software application with respective ones of said monitor applications to detect events associated with said operation of said software applications;
responsive to said detecting of at least one event, alerting an external entity of said event;
and
responsive to said alerting, initiating corrective action for said event.

33. A head-end apparatus for use in a cable network, comprising at least one server having a software process running thereon, said software process being adapted to selectively interface with at least one client device and retrieve logged error data therefrom.

34. The apparatus of Claim 33, wherein said software process is rendered in an object-oriented language and is adapted to interface with a trusted monitor application disposed

on said client device, said software process further being operable to cause said monitor application to control at least one aspect of the operation of said client device.

35. The apparatus of Claim 34, wherein said control of said at least one aspect is initiated by said software process in response to evaluation of said retrieved error data by said process.

36. An error logging system adapted for use on a consumer electronics device, comprising:

- an event registration entity;
- an event submission entity;
- an event database;
- a priority event reporting entity;
- a network retrieval entity; and
- a resource depletion registration entity.

37. The system of Claim 36, wherein said device comprises a set-top box having OCAP-compliant middleware comprised of at least a portion of said entities.

38. The system of Claim 37, wherein at least a portion of said entities comprise objects within an object-oriented programming environment.

39. The system of Claim 38, wherein said network retrieval entity comprises at least a portion of a client-server architecture.

40. The system of Claim 38, wherein said resource depletion entity is adapted to selectively destroy one or more running applications according to a prioritization scheme.

41. A method of conducting business via a cable network having a plurality of client devices operatively coupled thereto, said devices each having an event logging system, the method comprising:

- distributing at least one software application to ones of said plurality of devices;
- running said at least one software application on at least one of said devices to which it was distributed;
- receiving an event notification via said event logging system;
- evaluating said notification to determine a corrective action; and
- selectively controlling a function within said device using said event logging system, said function implementing at least a portion of said corrective action.

42. The method of Claim 41, wherein said event logging system comprises middleware running on said device, said middleware comprising a plurality of APIs, and said act of selectively controlling comprises controlling said function via one or more of said APIs.

43. The method of Claim 42, further comprising selectively enabling said event logging system within a subset of said plurality of devices based on a subscription policy.

44. The method of Claim 42, wherein said act of selectively controlling comprises controlling said function substantially via a network agent external to said device.

45. The method of Claim 42, wherein said act of evaluating comprises:
transmitting first data relating to said notification to a remote entity;
analyzing said first data;
generating a corrective action; and
transmitting second data relating to said corrective action back to said device;
wherein said act of said act of selectively controlling is based at least in part on said second data.

46. Apparatus adapted for operation within a multi-channel HFC cable distribution network, said apparatus comprising:

a digital processor;
a storage device operatively coupled to said processor;
middleware adapted to run on said processor;
a plurality of software entities comprising at least (i) an event registration entity, (ii) an event submission entity, and (iii) a network interface entity; and
at least one software application adapted to run on said processor;
wherein said apparatus is further configured, in cooperation with said middleware, to:
identify an event relating to the operation of said apparatus from information received via at least one of said submission and registration entities;
store information relating to said event within said storage device; and
selectively provide external access to said stored information via said network interface entity.

47. The apparatus of Claim 46, further comprising:
an event database;
a priority event reporting entity; and
a resource depletion registration entity;

wherein said event database, event reporting entity, and said resource depletion entity are all in operative communication with said middleware.

48. CPE for use in a content-based network, said CPE comprising an event handling system adapted to automatically log data relating to one or more events occurring within said

5 CPE during operation and make such data available to a network agent.

49. The CPE of Claim 48, wherein said event handling system comprises:

(i) middleware adapted to register for and receive event notifications; and

(ii) a storage device adapted to store said data;

10 wherein said middleware is further adapted to selectively analyze said event notifications to identify said data to be stored within said storage device.

50. The CPE of Claim 49, wherein said middleware further comprises at least one API that can be used to access at least one hardware function within said CPE.